

Appl. No. : 10/008,780
Filed : November 13, 2001

AMENDMENTS TO THE CLAIMS

Please cancel Claims 2 and 3.

Please amend the Claims as follows:

1. (Currently Amended) A miniaturized circuit housing to encapsulate and provide external contacts for at least one integrated circuit having circuit contacts, the circuit housing comprising:

a housing floor comprising a lower surface which includes housing contact elements for making external contact and an upper surface with contact surfaces arranged to correspond to the circuit contacts and the housing floor being configured to receive at least one integrated circuit; and

a housing lid ~~attachable~~ permanently attached to the housing floor so as to define the housing and the housing lid comprising at least one spring element fixedly attached to a lower surface of the housing lid such that, when at least one integrated circuit is positioned within the housing, the at least one integrated circuit is pressed resiliently against the upper surface of the housing floor with no permanent connection between the contact surfaces of the housing and the circuit contacts of the at least one integrated circuit.

2. (Cancelled) ~~The circuit housing of Claim 1, wherein the housing lid on its lower surface comprises at least one spring element arranged to press an integrated circuit positioned within the housing against the housing floor.~~

3. (Cancelled) ~~The circuit housing of Claim 2, wherein the at least one spring element is fixedly attached to the lower surface of the housing lid.~~

4. (Withdrawn) The circuit housing of Claim 2, wherein the at least one spring element is loosely inserted between the housing lid and circuit.

5. (Withdrawn) The circuit housing of Claim 1, wherein the housing lid is flexible.

6. (Previously Presented) The circuit housing of Claim 1, further comprising a wall that substantially rigidly connects the floor and the lid of the housing to one another at their circumference so as to define an interior of the housing and tightly seals off the interior of the housing when the housing floor and lid are attached.

7. (Previously Presented) The circuit housing of Claim 6, wherein the wall is formed as part of the housing floor or the housing lid and wherein the wall is sealable via a butt joint to the respective housing lid or housing floor in a gas-tight manner.

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8. (Previously Presented) The circuit housing of Claim 7, wherein the seal is formed by an external plastic encapsulation of at least the butt joint between the housing lid or housing floor and the wall.

9. (Previously Presented) The circuit housing of Claim 6, wherein the interior of the housing is filled with an inert gas when sealed.

10. (Previously Presented) The circuit housing of Claim 1, wherein the housing has a flat four-cornered shape, with a substantially level and rectangular housing floor and housing lid.

11. (Previously Presented) The circuit housing of Claim 6, wherein the lid of the housing is rigidly constructed and joined to the wall

12. (Withdrawn) The circuit housing of Claim 1, wherein the lid of the housing is constructed as a heat sink comprising area-increasing structures in order to cool the circuit.

13. (Withdrawn) The circuit housing of Claim 2, wherein the ductility and shapes of the housing lid and the at least one spring element is selected such that the pressing force exerted by the housing lid and the at least one spring element between the circuit and the housing floor is such as to maintain electrical contact between the circuit contact elements and the housing floor.

14. (Previously Presented) The circuit housing of Claim 1, wherein the housing contact elements are at least partially spherical.

15. (Withdrawn) The circuit housing of Claim 1, wherein the housing contact elements are constructed substantially as contact pins or flat contact surfaces.

16. (Withdrawn) The circuit housing of Claim 1, wherein the housing floor is constructed as at least a section of a circuit board.

17. (Previously Presented) The circuit housing of Claim 1, wherein the contact surfaces are configured as flat elevations so as to make internal contact with the circuit contact.

18. (Previously Presented) The circuit housing of Claim 17, wherein the contact surfaces comprise gold and are formed by the stamping of bumps.

19. (Previously Cancelled)

20. (Withdrawn) The circuit housing of Claim 6, further comprising a rigid covering wherein the rigid covering shields the lid of the housing such that externally applied forces are inhibited from being transmitted to the circuit.

21. (Currently Amended) An electronic circuit housing assembly comprising:
a circuit chip having chip contacts;
a housing floor comprising a plurality of outer contacts disposed on a lower surface of the housing floor so as to provide external contact and which are in electrical contact with a corresponding plurality of inner contacts arranged to correspond to the chip contacts; and
a housing lid permanently attachable to the housing floor so as to define a housing wherein positioning of the chip within the housing and attachment of the housing lid to the housing floor induces an elastic pressure on the chip so as to create solely a compression contact between the chip contacts and the inner contacts.
22. (Withdrawn) The circuit housing of Claim 21, wherein the elastic pressure arises from an elastic deformation of the housing lid upon attachment of the housing lid and the housing floor with the chip interposed therebetween.
23. (Previously Presented) The circuit housing of Claim 21, further comprising at least one elastic element interposed between the housing lid and the chip.
24. (Previously Presented) The circuit housing of Claim 23, wherein the at least one elastic element comprises a spring.
25. (Withdrawn) The circuit housing of Claim 23, wherein the at least one elastic element comprises an elastomeric bulk material.
26. (Previously Presented) The circuit housing of Claim 23, wherein the at least one elastic element is fixedly attached to the housing lid or the chip.
27. (Previously Presented) The circuit housing of Claim 23, wherein the at least one elastic element is held in compression between the housing lid and the chip by the attachment of the housing lid to the housing floor.
28. (Previously Presented) The circuit housing of Claim 21, wherein at least one of the outer contacts and the chip contacts comprise gold.